

Amendment and Response

Applicant: LeRoy A. Kuta et al.

Serial No.: 09/883,144

Filing Date: June 15, 2001

Docket No.: 56731US002 (M120.137.101)

Title: METHOD AND APPARATUS FOR AUTOMATICALLY APPLYING A FLYING SPLICING TAPE TO A ROLL OF SHEET MATERIAL

REMARKS

This Amendment is responsive to the Office Action mailed March 12, 2003. In that Office Action, the Examiner rejected claims 1-2, 5-8, 10-12, 17-20, 22-24, 27, 28, 33-37, and 40-43 under 35 U.S.C. §103(a) as being unpatentable over European Patent Publication No. 349350 B1("Kishi et al.") in view of Weinberg et al., U.S. Patent No. 5,916,651 ("Weinberg"). Claims 9, 13, 16, 29-32, and 38-39 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kishi in view of Weinberg, and further in view of Koza et al., U.S. Patent No. 5,431,767 ("Koza"). Claims 25 and 26 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kishi in view of Weinberg, and further in view of McCormick et al., U.S. Patent No. 5,524,844 ("McCormick"). The Examiner's indication that claims 3-4 and 21 would be allowable if rewritten in independent form is noted with appreciation.

It is believed that all claims are in a condition for allowance. Notice to that effect is respectfully requested.

Claim Rejections under 35 U.S.C. § 103

On page 2 of the Office Action, the Examiner rejected claims 1, 2, 5-8, 10-12, 17-20, 22-24, 27, 28, 33-37, and 40-43 under 35 U.S.C. §103(a) as being unpatentable over Kishi in view of Weinberg. The Examiner stated that Kishi shows a method and apparatus for applying a splicing tape by sensing a leading edge of a web (column 10, line 32 – column 11, line 14), lifting a portion of the outer-most layer of the roller, applying tension to the layer, cutting the lifted portion at a known location downstream of the lifting mechanism (column 2, lines 24-30) to coincide with a tape application line, applying a temporary holding tape to the wound portion of the roll at the application line, and adhering the leading edge of the cut outer-most layer to the holding tape (column 11, lines 35-54; column 14, lines 18-47). The Examiner indicated that Kishi fails to show the outer-most layer to cover only a portion of the tape while leaving a portion of the tape exposed. The Examiner stated that Weinberg teaches that an adhesive tape with a split cover liner should extend approximately one-quarter to one-third of the way underneath the outer-most layer of the roll, leaving the remainder exposed for splicing to the new

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web (column 2, lines 4-9, 51-60, column 3, lines 40-45, 60-63). Finally, the Examiner indicated that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the tape of Weinberg in the method and apparatus of Kishi because Weinberg shows this to be an effective single tape for both adhering the outer-most layer and accomplishing the splicing to a new roll.

Independent claim 1 relates to a method of automatically applying a splicing tape to a roll of sheet material that includes an outer-most layer. The method of claim 1 includes lifting a portion of the outer-most layer away from a remainder of the roll, and cutting this lifted portion to form a leading edge; the cut being made at a known spatial location relative to a circumference of the wound portion such that the leading edge is radially aligned with a defined application line on the wound portion. A splicing tape is applied to the wound portion of the roll. The leading edge is adhered to an outer surface of the applied splicing tape.

It is respectfully submitted that none of the cited references teach or otherwise suggest at least these limitations. In particular, none of the cited references disclose several specific limitations of independent claim 1. First, the limitation that the cutting of the lifted portion of the outer-most layer is made at a known spatial location relative to a circumference of the wound portion of the roll such that the leading edge is radially aligned with a defined application line on the wound portion is not shown, taught, or suggested in any of the cited references. In particular, Kishi does not discuss cutting a lifted portion (a) at a known spatial location; (b) relative to a circumference of the wound portion; (c) such that the leading edge is radially aligned with a defined application line of the wound portion. In addition, this limitation is not addressed in the rejection of claim 1 under 35 U.S.C. §103(a) with respect to Kishi and Weinberg.

Second, the limitation of applying the splicing tape to the wound portion of the roll at the defined application line is not shown, taught, or suggested in the prior art references. To this end, it is respectfully submitted that Kishi does not support the teachings averred by the Examiner. Kishi is properly viewed as providing two distinct embodiments. A first aspect (FIGS. 1- 10) relates to a device for handling two separate rolls of web material such that as the first roll becomes depleted, a leading end of the second roll is connected to a trailing end of the

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first roll for continuous processing of the web material; a second aspect (FIGS. 11 and 12) relates to a particular roll configuration most conducive for use with the handling equipment described above. In most general terms, then, the Kishi disclosure relating to the two roll handling device teaches how two rolls that have already been prepared by securing an outermost layer to an inner winding (one example of which is shown in FIGS. 11 and 12) are subsequently handled. The leading edge of one roll is sensed, cut and prepared for attachment to a soon-to-be cut trailing edge of the other roll; these steps are entirely unrelated to reattaching the cut edge back onto the roll itself. Thus, the language relied upon by the Examiner relating to sensing a leading edge (column 10, line 32 – column 11, line 14), lifting the outer-most layer (column 2, lines 24 – 30), and adhering the outer-most edge (column 11, lines 35 – 54) does not relate to applying a splicing tape to a roll of sheet material. Instead, it is specifically directed toward a method of attaching a cut leading edge of a first roll to a cut trailing edge of a second roll.

The second aspect of Kishi (FIGS. 11 and 12), while describing a roll of material having an outer-most layer secured to an inner winding thereof, does not provide any details on how this roll is prepared, other than to state that a hole 11b is formed through the outer-most layer and a section of tape 12 is placed over the hole. (Kishi, column 14, lines 12 – 47). Once again, this roll shown in FIGS. 11 and 12 is not produced by the mechanisms shown in FIGS. 1 – 10, nor can it be as those mechanisms are used solely to connected ends of two separate rolls to one another. Thus, if the tape 12 is viewed as the splicing tape of claim 1, Kishi does not teach or suggest the various elements of claim 1, as Kishi provides no explanation of how the tape 12 is applied, and certainly not the steps of claim 1.

Third, Kishi discloses that “The reels R_1 , R_2 of material r_1 , r_2 include a bonding material such as paste at a portion near the wound end which is located along the outer peripheral of the material. In the present embodiment, a hole is made in a subsequently central portion along the width near the end P and adhesive tape is attached to the outer surface thereof to bond it through the holes ...” (column 6, line 57 – column 7, line 6). See also Figure 11. In addition, Kishi states “Figures 11 and 12 show an arrangement for holding the end of web-like material to the outer periphery of the reel.” (column 14, lines 2-4). Additionally, Kishi states “The tape is cut

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larger than the opening area of the hole 11b and is pasted to the outer surface of the web-like material 11 to thereby cover the hole. After the tape has been pasted, it is pressed inwardly of the hole so to be deformed, whereby it is bonded and temporarily held on the outer surface of the material 11, which extends through the hole and is wound on the inner periphery thereof.” (column 14, lines 39-47). Finally, Kishi states that “the material (adhesive tape) is therefore temporarily held at a fixed area in a fixed position on the outer periphery of the web-like material which is attached to the inner periphery of the adhesive surface.” (column 15, lines 18-22). Clearly, all of the above-referenced language from Kishi teaches and shows the opposite of a limitation of independent claim 1; specifically, the limitation of applying the splicing tape to the wound portion of the roll at the defined application line rather than applying the splicing tape to the unwound portion of the roll.

Fourth, none of the cited references disclose the limitation of independent claim 1 of adhering the leading edge to an outer surface of the splicing tape. Similar to the arguments discussing the limitation of applying the splicing tape to the wound portion of the roll, Kishi teaches and shows the opposite of this limitation. In particular, Kishi discloses adhering the inner surface of an adhesive to an outer surface of the web-like material. Notably, Kishi teaches away from positioning the tape 12 such that the leading edge of web material covers a portion of the tape 12 as to do so would require that the leading edge be firmly secured to the remainder of the roll. Kishi desires that the leading edge not be firmly secured as to so would impede peeling of the leading edge by the device of FIG. 1 (Kishi, column 15, lines 2-5).

Therefore, in light of the above remarks, it is respectfully submitted that independent claim 1 is allowable.

Independent claim 18 is an apparatus claim, while independent claim 42 is a method claim. However, claims 18 and 42 each include the same or similar limitations to those discussed with reference to independent claim 1. Likewise, the prior art references of Kishi and Weinberg do not teach, show, or suggest these limitations, as previously discussed with respect to independent claim 1. Notably, while the Examiner has not specifically pointed to the language of Kishi that allegedly satisfies the sheet engagement mechanism, sheet cutter and

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taping device elements of claim 18, no such components can be identified in Kishi as any analogous handling and/or cutting devices do not relate to a device for applying a splicing tape; instead, for example, the sheet handling mechanisms 1, 2, 4, and 5, as well as the cutter 7, all relate to a device for connecting a leading of a new roll of web material to a trailing end of a depleted roll of web material. Further, Kishi does not even mention a taping device. Therefore, it is believed that independent claims 18 and 42 are also similarly allowable.

Claims 2, 5-8, 10-12, 17, 19, 20, 22-24, 27, 28, 30-37, 40, 41, and 43 are dependent claims that depend from either independent claims 1, 18, or 42. As previously discussed, it is believed that all independent claims are allowable. Therefore, it is also submitted that all dependent claims are similarly allowable.

On page 3 of the Office Action, the Examiner rejected claims 9, 13, 16, 29-32, 38, and 39 under 35 U.S.C. §103(a) as being unpatentable over Kishi in view of Weinberg, and further in view of Koza. These rejected claims are all dependent claims, depending from either independent claims 1 or 18. Thus, as previously discussed, it is believed that these dependent claims are allowable.

On page 4 of the Office Action, the Examiner rejected claims 25 and 26 under 35 U.S.C. §103(a) as being unpatentable over Kishi in view of Weinberg, and further in view of McCormick. Claims 25 and 26 are dependent claims which depend from independent claim 18. as previously discussed, it is believed that dependent claims 25 and 26 are allowable.

CONCLUSION

It is believed that all claims are now in a condition for allowance. Notice to that effect is respectfully requested.

No fees are required under 37 C.F.R. 1.16(b)(c). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 500471.

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The Examiner is invited to contact the Applicants' Representative at the below-listed telephone number if there are any questions regarding this response.

Respectfully submitted,

LeRoy A Kuta et al.,

By their attorneys,

DICKE, BILLIG & CZAJA, PLLC

Fifth Street Towers, Suite 2250

100 South Fifth Street

Minneapolis, MN 55402

Telephone: (612) 573-0427

Facsimile: (612) 573-2005

Date: June 12, 2003

TAC:MRB:jmc

Michael R. Binzak

Michael R. Binzak

Reg. No. 38,081

CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this paper or papers, as described herein, are being deposited in the United States Postal Service, as first class mail, in an envelope address to: Mail Stop Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 12th day of June, 2003.

By

Michael R. Binzak

Name: Michael R. Binzak